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A system for sealing the legs of two stages of cyclones in series used in fluid catalytic cracking (FCC) processes, comprising a terminal leg configuration, which is devoid of moving parts and makes use of a long-radius curve, and which changes the flow direction of the descending mass flow of catalyst in dense phase into a plane orthogonal to the ascending gaseous flow. This prevents the entry of gaseous phase inside the leg, and promotes efficient sealing and preventing the "packing-down" of the dense bed of particulates.